

CLAIMS

1 A photocurable resin composition comprising:

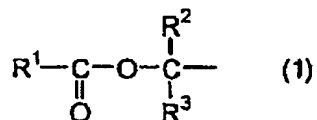
5 (A) a component comprising a carboxyl group that may dissociate in the presence of an acid,

(B) a cationically polymerizable compound, and

(C) a cationic photoinitiator.

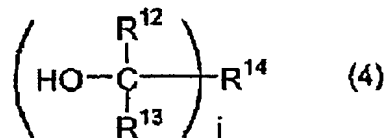
2 The photocurable resin composition according to claim 1, wherein the

10 component (A) comprises a compound (a1) having a structure of the following formula (1),



15 wherein R¹ represents an organic group having a polymerizable carbon-carbon double bond, and R² and R³ individually represent an alkyl group having 1-10 carbon atoms or an aryl group having 6-14 carbon atoms.

3 The photocurable resin composition according to claim 1 or 2, wherein the component (A) comprises a compound (a2) having the structure

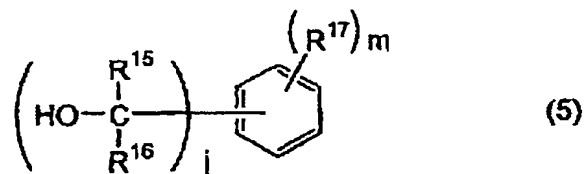


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wherein R¹² and R¹³ individually represent an alkyl group having 1-10 carbon atoms or an aryl group having 6-14 carbon atoms, R¹⁴ is an organic group with a valence of i, the R¹⁴ group indicating a single bond when i is 2, and i is

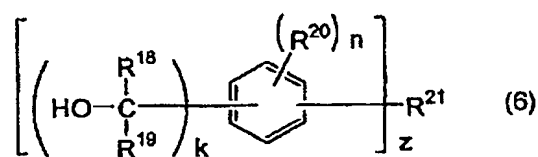
an integer of 2-4, provided that one of R^{12} , R^{13} , and R^{14} is an alkyl group having 1-10 carbon atoms.

- 4 The photocurable resin composition according to anyone of claims 1-3, wherein the component (A) comprises a compound (a3) having the structure



wherein R^{15} represents an alkyl group having 1-10 carbon atoms, R^{16} represents an alkyl group having 1-10 carbon atoms or an aryl group having 6-14 carbon atoms, R^{17} individually represents an alkyl group having 1-5 carbon atoms, j is an integer of 2-4, and m is an integer of 0-4, provided $j + m \leq 6$.

- 5 The photocurable resin composition according to anyone of claims 1-4, wherein the component (A) comprises a compound (a4) having the structure

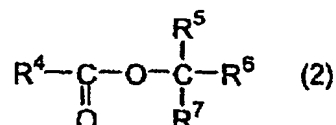


wherein R^{18} represents an alkyl group having 1-10 carbon atoms, R^{19} represents an alkyl group having 1-10 carbon atoms or an aryl group having 6-14 carbon atoms, R^{20} individually represents an alkyl group having 1-5 carbon atoms, R^{21} is an organic group having a valence of z , -O-, -S-, -CO-, or SO_2 , k is an integer of 1 or 2, n is an integer of 0-3, and z is an integer of 2-4.

- 6 The photocurable resin composition according to anyone of claims 1-5,

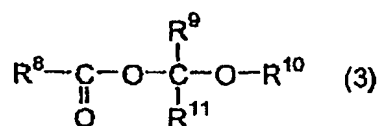
wherein the component (A) comprises 2,5-dimethylhexane-2,5-di(meth)acrylate or 1,3-di(2-hydroxypropyl)benzene-di(meth)acrylate.

- 7 The photocurable resin composition according to anyone of claims 1-6, wherein the component (A) comprises a compound (b1) having the structure



- 5 wherein, R⁴ represents an organic group having a polymerizable carbon-carbon double bond, R⁵ represents an alkyl group having 1-10 carbon atoms, and R⁶ and R⁷ represent an alkyl group having 1-10 carbon atoms, monovalent alicyclic group having 6-20 carbon atoms, or monovalent aryl group having 6-20 carbon atoms.

- 8 The photocurable resin composition according to anyone of claims 1-7, wherein the component (A) comprises a compound (b2) having the structure



- 15 wherein R⁸ represents an organic group having a polymerizable carbon-carbon double bond, R⁹ represents a hydrogen atom, alkyl group having 1-10 carbon atoms, alicyclic group having 3-10 carbon atoms, aryl group having 6-10 carbon atoms, or aralkyl group having 7-11 carbon atoms, R¹⁰ and R¹¹ individually represent an alkyl group having 1-10 carbon atoms, haloalkyl group having 1-10 carbon atoms, alicyclic group having 3-10 carbon atoms, aryl group having 6-10 carbon atoms, or aralkyl group having 7-11 carbon atoms, or any two of R⁹, R¹⁰, and R¹¹ may bond to form a 5-7 member ring.
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- 9 The photocurable resin composition according to anyone of claims 1-8,
 wherein the component (A) comprises a compound (c), which is a (co)polymer
 prepared from monomers comprising the compounds (a) and/or (b).
- 10 The photocurable resin composition according to claim 9, wherein the
5 (co)polymer is prepared from monomers comprising 10-100 mol% of
 component (b).
- 11 The photocurable resin composition according to claim 9-10, wherein the
 polystyrene-reduced weight average molecular weight of the copolymer (c)
 determined by gel permeation chromatography (GPC) is 1,000-500,000
- 10 12 The photocurable resin composition according to anyone of claims 1-11,
 wherein the proportion of the component (A) used in the photocurable resin
 composition of the present invention is 1-50 wt%.
- 13 The photocurable resin composition according to anyone of claims 1-12,
 wherein the component (B) contains 50 wt% or more of epoxy compounds.
- 15 14 The photocurable resin composition according to anyone of claims 1-13,
 wherein the component (B) is present in an amount from 20-90 wt%.
- 15 The liquid photocurable resin composition according to anyone of claims 1-14,
 further comprising (D) elastomer particle having a number average particle
 diameter of 10 to 1,000 nm.
- 20 16 The liquid photocurable resin composition according to anyone of claims 1-15,
 further comprising (E) an ethylenically unsaturated monomer other than the
 component (A), and (F) a radical photoinitiator.
- 17 The liquid photocurable resin composition according to anyone of claims 1-16,
 further comprising (G) a polyether polyol compound having one or more
25 hydroxyl groups in the molecule.
- 18 A photofabricated product obtained by curing the liquid photocurable resin

composition according to any one of claims 1-17 by applying light.

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